ROLLING BEARING

Publication number: JP2125841
Publication date: 1990-05-14
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Classification:
- international: ***F16C33/44; C22C38/00; C22C38/14; C23C8/22; C23C8/32; F16C33/62;*** **F16C33/38; C22C38/00; C22C38/14; C23C8/06; C23C8/08; F16C33/62;** (IPC1-7): C22C38/00; C22C38/14; C23C8/22; C23C8/32; F16C33/44; F16C33/62
- European:
Application number: JP19890157288 19890620
Priority number(s): JP19890157288 19890620; JP19880172030 19880711

Abstract of **JP2125841**

PURPOSE:To prevent the cracks of the title bearing at the time of working and to prolong its service life by forming at least one of the inner ring, outer ring and rolling element in a rolling bearing with a medium carbon Mn steel having specific compsn., subjecting the steel to carburizing treatment and specifying the amt. of retained austenite on the surface layer. CONSTITUTION:At least one of the inner ring, outer ring and rolling element in a bearing is formed with the compsn. of a medium carbon Mn steel constituted of, by weight, 0.4 to 0.7% C, 0.15 to 1.2% Si, 1.2 to 1.7% Mn, 200 to 300ppm Al, <=40ppm Ti, 100 to 200ppm N, <=80ppm S, <=9ppm O and the balance Fe. The steel is worked into a rolling bearing, which is subjected to carburizing heat treatment or carbonitriding heat treatment to regulate the amt. of retained austenite in the surface layer part to 25 to 45vol.%. In this way, the coarsening of the crystal grains is prevented to prolong the service life of the bearing. At the time of furthermore incorporating at least one kind of 0.03 to 0.08% Nb and 0.1 to 0.15% V into the above steel, the crystal grains are converted into fine ones having >=8 of grain size number even after the carburizing heat treatment, by which the service life can moreover be prolonged.
